XFP130100HxD – XFP Dual Fibre

1310nm / 10km / OC-192 Multirate

For your product safety, please read the following information carefully before any manipulation of the transceiver:

ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.

LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

1. Overview

XFP130100HxD is a high performance XFP transceiver module for 9.95 to 11.3Gbps data links over a single mode fibre pair. The maximum reach[1] is 10km, with 8.5dB end of life (EOL) power budget. The transmitter is an uncooled 1310nm DFB laser, the receiver is a PIN photodiode.

This transceiver module is compliant with the Small Form-factor Pluggable (XFP) Multisource Agreement (MSA) and hot pluggable. Always contact Skylane Optics® commercial agents for compatibility with different equipment platforms.

2. Features

- XFP Multi-Source Agreement Rev 4.5 compliant
- Hot pluggable XFP footprint
- Serial ID functionality supported according to XFP MSA
- Class 1 laser safety standard IEC 60825 compliant
- Dual LC connector
- Uncooled 1310nm DFB transmitter
- 10km point-to-point transmission on single mode fibre
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (< 2.5W)
- Digital diagnostics monitoring (DDM)

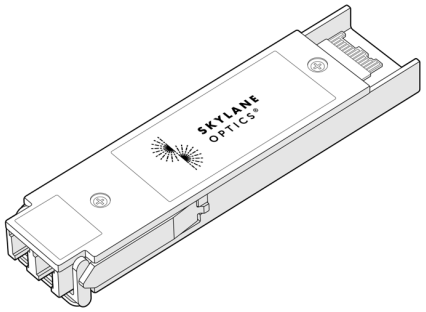


Figure 1. XFP Dual Fibre
(non-binding illustration)

3. Applications

- SONET OC-192/SDH STM-64
- 10GBASE-LR/LW
- 10× Fiber Channel

4. Optical Interface

P/N	Wavelength [nm]	Output Optical Power[2] [dBm]	Optical Receiver Sensitivity[3] [dBm]	Dispersion Penalty [dB]	Optical Receiver Overload[4] [dBm]	Power Budget[2] [dB]
XFP130100HxD	1310nm	-6 to 0	≤ -14.5	≤ 1	0.5	≥ 8.5

1. Distance is estimated assuming typical optical losses after decent quality fibre deployment; Only optical budget value is guaranteed.
2. EOL, over operating temperature range
3. Measured at 10.3125Gbps, PRBS 231-1, BER≤10-12
4. The optical input to the receiver should not exceed this value. Transmitters must never be directly connected to receivers (optical loop back) before ensuring that proper optical attenuation is used

5. Technical Parameters

5.1. Recommended Operating Conditions					
Parameter	**Min**	**Typ**	**Max**	**Unit**	**Notes**
Storage temperature	-40		85	°C	
Operating temperature	0		70	°C	XFP130100H0D
	-40		85	°C	XFP130100H2D
Relative Humidity			85	%	Non condensing
Power Supply Voltage, VCC3	3.13	3.3	3.45	V	
Power Supply Current, ICC3			720	mA	
Power Consumption			2.5	W	

5.2. Transmitter Optical Specifications					
Parameter	**Min**	**Typ**	**Max**	**Units**	**Notes**
Average Output Power	-6		0	dBm	5
Wavelength	1290		1330	nm	
Spectral Width (-20dB)			1	nm	
Extinction Ratio	6			dB	
Dispersion Penalty			1	dB	

5. Output power coupled into a 9/125 µm multi-mode fibre

5.3. Receiver Optical Specifications					
Parameter	**Min**	**Typ**	**Max**	**Units**	**Notes**
Receiver Sensitivity			-14.5	dBm	6
Receiver Overload	0.5			dBm	6
Receiver Operating Range	1270		1565	nm	

6. Measured at 10.3125Gbps, PRBS 2^{31}-1, BER≤10^{-12}

6. Transceiver Electrical Pad Layout

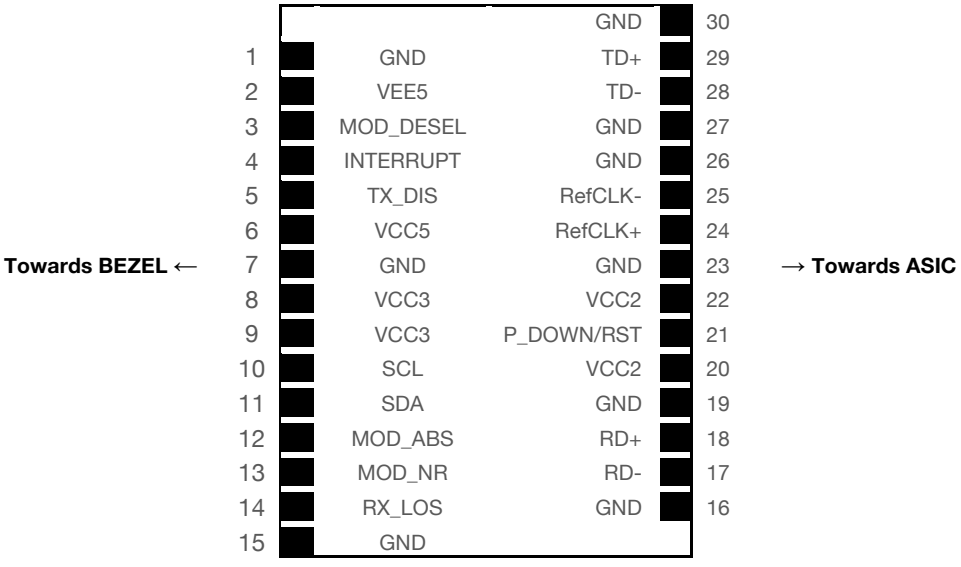


Figure 2. Transceiver Electrical Pad Layout

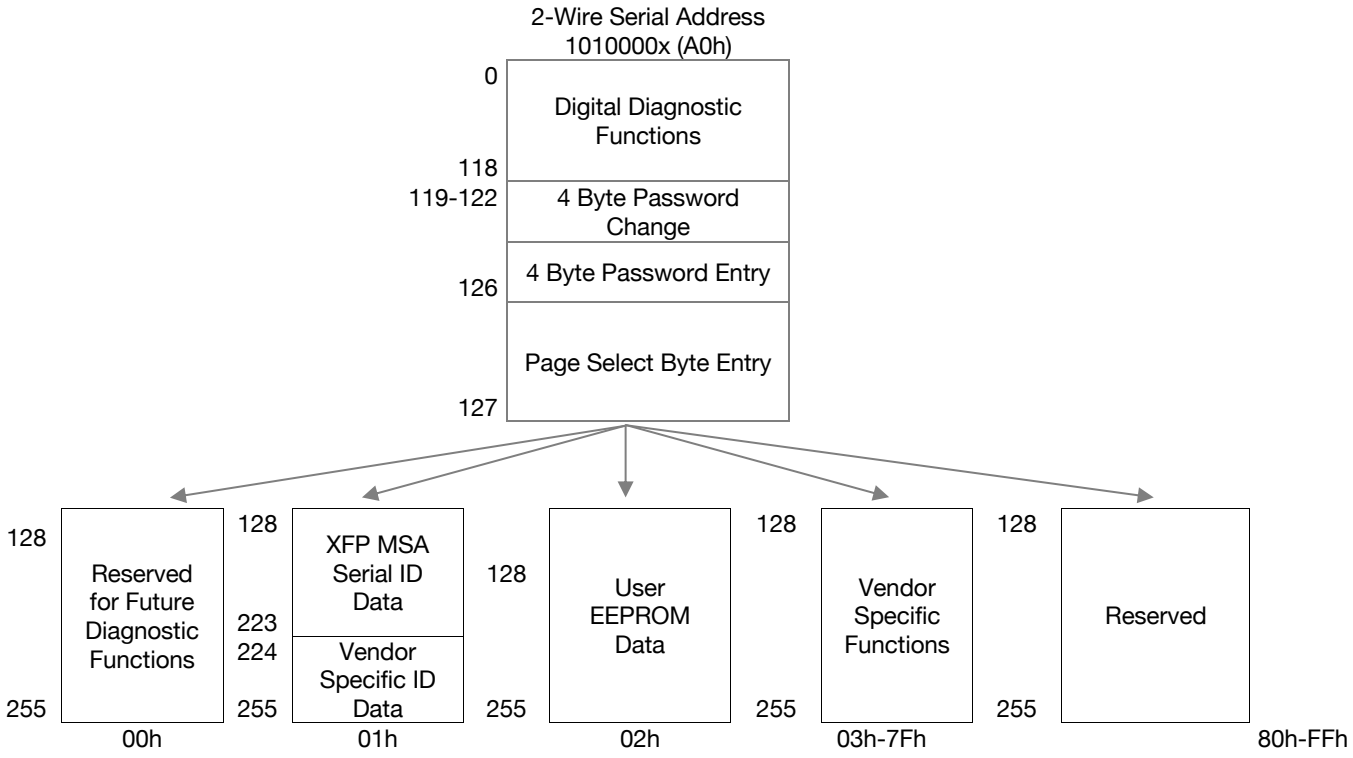
7. Pin Functions Definitions

XFP MSA

Pin Number	Name	Description
1	GND	Module Ground
2	VEE5	Not Used
3	Mod_DeSeL	Module De-select
4	Interrupt	Indicator of important condition
5	TX_DIS	Transmitter Disable
6	VCC5	Not Used
7	GND	Module Ground
8	VCC3	+3.3V Power Supply
9	VCC3	+3.3V Power Supply
10	SCL	2-Wire Serial Interface Clock
11	SDA	2-Wire Serial Interface Data
12	Mod_Abs	Indicates Module is not present
13	Mod_NR	Module Not Ready
14	RX_LOS	Receiver Loss of Signal Indicator
15	GND	Module Ground
16	GND	Module Ground
17	RD-	Receiver Inverted Data Output
18	RD+	Receiver Non-Inverted Data Output
19	GND	Module Ground
20	VCC2	Not Used
21	P_Down/RST	Power Down / Reset
22	VCC2	Not Used
23	GND	Module Ground
24	RefCLK+	Not Used
25	RefCLK-	Not Used
26	GND	Module Ground
27	GND	Module Ground
28	TD-	Transmitter Inverted Data Input
29	TD+	Transmitter Non-Inverted Data Input
30	GND	Module Ground

8. EEPROM

XFP MSA (INF-8077)



9. Ordering Information

Part Number	Description
XFP130100H0D	XFP dual fibre, Tx 1310nm (DFB), Rx (PIN), maximum distance 10km, power budget 8.5dB, OC-192 multirate, LC connector, **0°C to 70°C**, DDM
XFP130100H2D	XFP dual fibre, Tx 1310nm (DFB), Rx (PIN), maximum distance 10km, power budget 8.5dB, OC-192 multirate, LC connector, **-40°C to 85°C**, DDM

10. Document Revision Information

Revision	Description
A	Initial release

Skylane Optics supplies a broad range of optical transceivers. Our engineers work closely with our customers to find the best solutions for every application. We are committed to provide high quality products and services to our customers.

For questions on this product please contact:
support@skylaneoptics.com